

ABSTRACT

In an ESD protection device using a LVTSCR-like structure, the holding voltage is increased by placing the p+ emitter outside the drain of the device, thereby retarding the injection of holes from the p+ emitter. The p+ emitter may be implemented in one or more emitter regions formed outside the drain. The drain is split between a n+ drain and a floating n+ region near the gate to avoid excessive avalanche injection and resultant local overheating.